



## **CALTRANS SUBREGIONAL OPERATIONS FORUMS**

**Traveler Information Systems for  
Operations**





# Traveler Information for Operations

- ▶ The Role of Traveler Information for Transportation Management Agencies
- ▶ How Traveler Information has Evolved
- ▶ Core Components and Relationship to other Operations areas
- ▶ Key Trends Influencing Traveler Information





# What Role Does Traveler Information Serve?

- ▶ A direct link to transportation users
  - ↳ Your customers
- ▶ An integrated and cross-cutting function
  - ↳ Recurring congestion information
  - ↳ Traffic incident management
  - ↳ Emergencies and alerts
  - ↳ Planned events and work zones
- ▶ Extension of agency branding
- ▶ Strong potential for innovation – delivery and partnerships

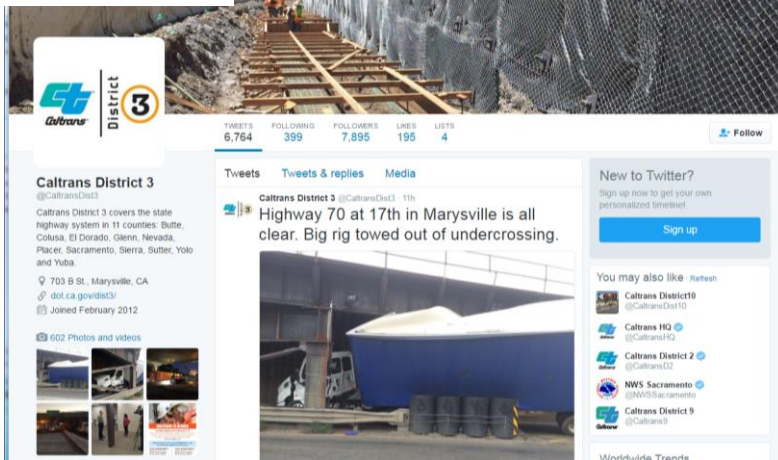




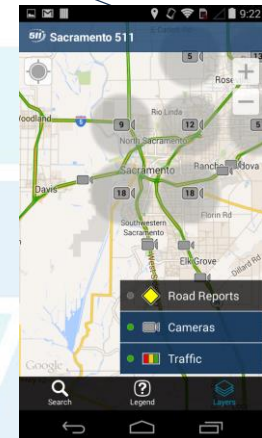
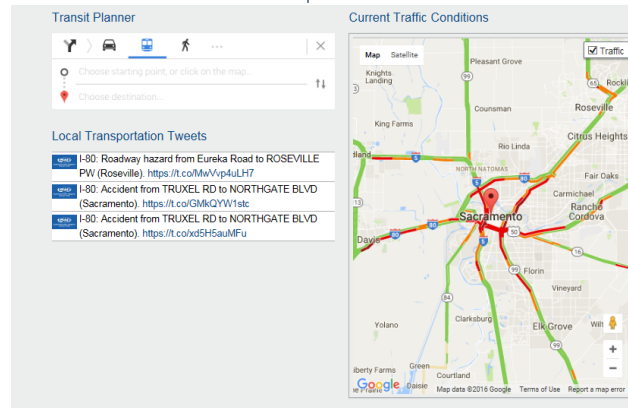
# Evolution of Traveler Information



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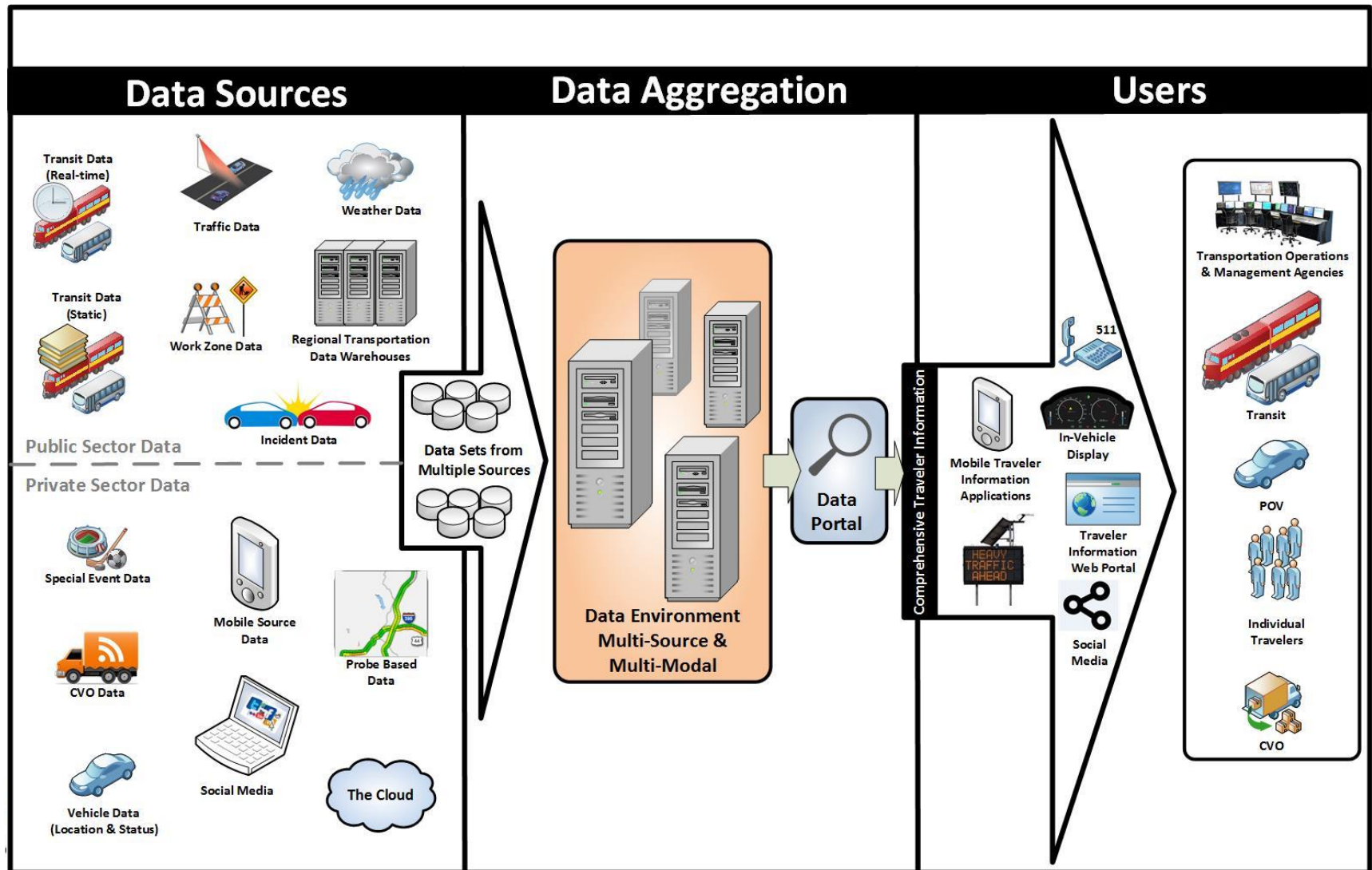




# Today's Mobile Environment



# Core Components







# As users and system operators ....

- ▶ What are some of the strengths of the Sacramento Region's traveler information capabilities?





# As users and system operators ....

- ▶ What are some of the key gaps?





# Key Trends Influencing Traveler Information

- ▶ Big Data
- ▶ Social Media
- ▶ Business Models and New Roles
- ▶ Industry, Market and Social influences







# What comes to mind when you think of ***BIG Data??***

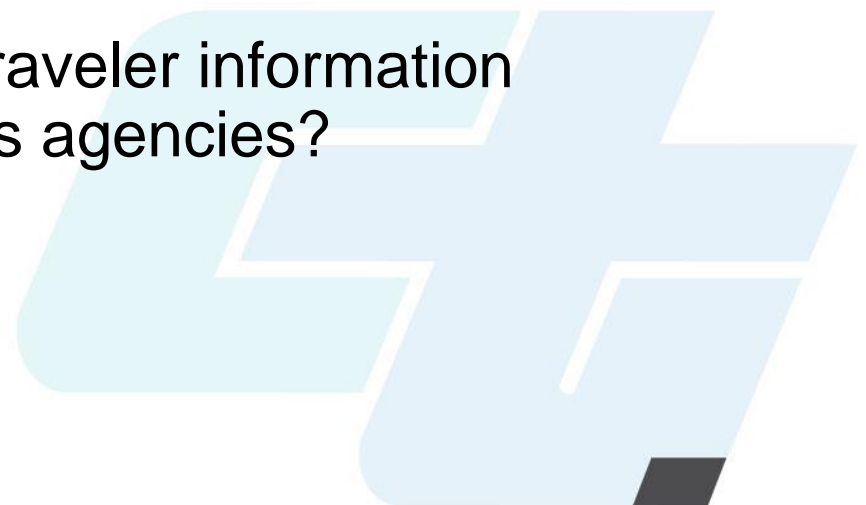






# The Business of Traveler Information...and Data

- ▶ Data is more available, more ubiquitous
  - ↳ Not limited to agency infrastructure
  - ↳ Some agencies very experienced with integrating private sector data into traveler info and ops
- ▶ More “competition” in the industry
  - ↳ Mobile applications (private and media)
  - ↳ Deep supply chain for traveler information
- ▶ What are objectives of private traveler information providers? Are they the same as agencies?







# Operations Program Challenges for Big Data

- ▶ Legacy technology environments
  - ↳ Expansion and consolidation challenges
  - ↳ Siloed environments
- ▶ Just now talking about “the cloud”...
- ▶ Managing unstructured data in a structured environment
- ▶ Resources to manage and innovate
- ▶ Changes to “business as usual”
- ▶ Data security and liability
- ▶ Others?



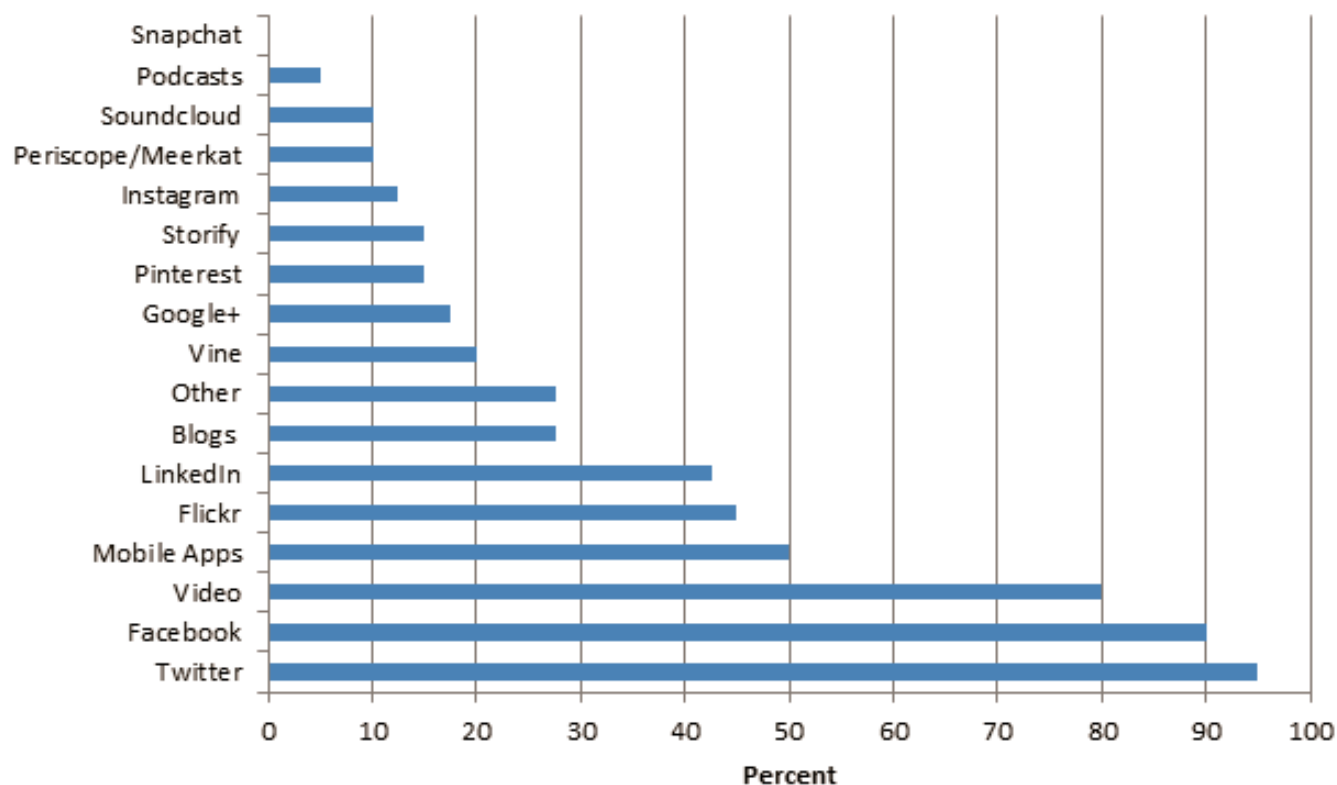
# Key Trend: Social Media

- ▶ Impact of social media on traveler information
- ▶ Emphasis on the end user has raised the profile for social media tools within state DOTs
- ▶ AASHTO Annual Survey
- ▶ Trends, new tools, 'fading' tools





## Is your state using one or more of the following tools?

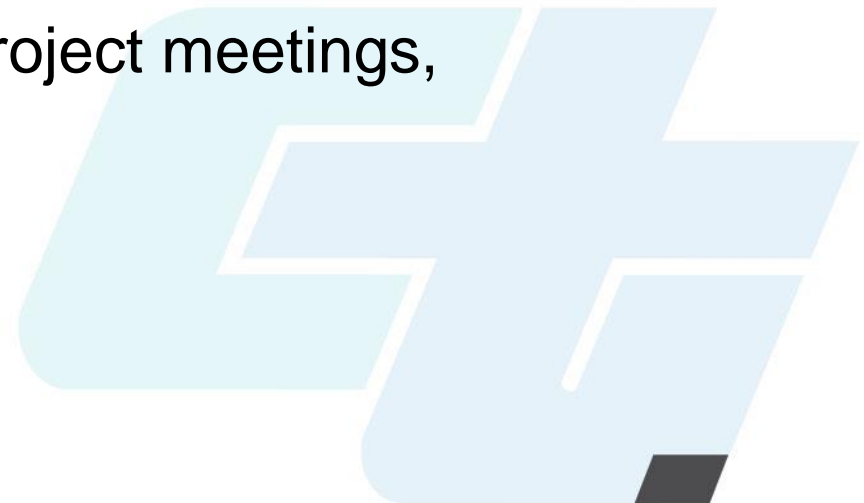






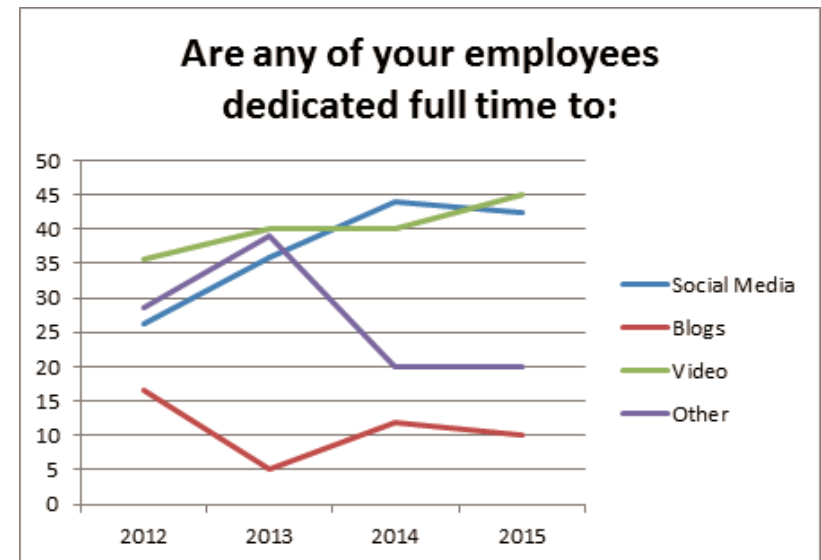
# Using Social Media for Traveler Information

- ▶ Alerts – closures, incidents, lanes blocked
  - ▶ Hazards, including weather and disasters
  - ▶ Road conditions
  - ▶ Special event traffic advisories
- ▶ AMBER Alerts
  - ▶ Project information
  - ▶ Announcements – public and project meetings, milestones, achievements
  - ▶ Safety messages and alerts
  - ▶ Public service announcements



# New Roles for Agency Social Media Staff

- ▶ Need for social media expertise in agencies
- ▶ Balancing traditional communications roles with demand for new social media tools
- ▶ Size of communications teams not growing in scale with need
- ▶ 42% of DOTs have full time staff for social media
- ▶ What about local agencies?





# Key Trend – Changing Roles for Public and Private Partners

## Traditional Roles

- ▶ Well-defined and distinct roles and strengths
- ▶ Focus on urban area markets and commuters
- ▶ Contracted roles for private sector in ATIS
- ▶ Geographic limitations of agency infrastructure

## Today's Roles

- ▶ Overlap for several functions
- ▶ Capability for corridor and multi-state information
- ▶ Self-sustaining private sector models
- ▶ New technologies can broaden coverage



# Key Trend – Industry Market Influences

- ▶ Dynamic market requires nimble customer service approach
- ▶ Rapid technology turnover and short shelf-life of mobile devices
  - ↳ 10-15 years for typical DMS vs.
  - ↳ 1-2 years for mobile operating system
- ▶ Future connected vehicle capabilities
  - ↳ A lot still to be defined
  - ↳ Dependency on auto industry, technology suppliers
  - ↳ Aligning policy, need and resources
  - ↳ Opens up a wealth of potential data to support traveler information systems



# The Customer Perspective

- ▶ Customer needs and expectations for traveler information
  - ↳ Changing at the pace of mobile technology
  - ↳ Defining different customers and their needs
  - ↳ Direct personal impact and connection
- ▶ Agencies are also customers....





# Group Activity

- ▶ Small group/table activity to address 3 questions:
- ▶ Who are the primary users of the 50 corridor?
- ▶ Where do you see the greatest opportunities to enhance traveler information on this corridor?
- ▶ What are some steps that agencies here need to take to address gaps in traveler information?





# Next Steps





# Additional Resources

- ▶ SHRP2 L11: *Evaluating Alternative Operations Strategies to Improve Travel Time Reliability* (Traveler Information System Performance Metrics)
- ▶ SHRP2 L14: Lexicon for Conveying Travel Time Reliability Information
- ▶ Real-Time System Management Information Program (1201)
- ▶ AASHTO Annual Survey on State DOT Social Media Usage
- ▶ *Communicating With the Public Using ATIS During Disasters: A Guide for Practitioners* (FHWA-HOP-07-068)
- ▶ Real-Time Traveler Information Market Assessment (FHWA-JPO-10-055)
- ▶ NCHRP Synthesis 399: Real-Time Traveler Information Systems
- ▶ Next Generation traveler Information-A five Years Outlook
- ▶ Impact of Technology on TMC Operation (FHWA-HOP-13-008)
- ▶ Estimated Benefit of Crowdsourced Data from Social Media (FHWA-JPO-14-165)